2.2 Freezer Door Gasket Replacement [Part No. 19000685]

1) F3Dn Dispenser should be OFF and the freezer compartment fully defrosted before proceeding.
2) Open freezer door and inspect the one-piece magnetic door gasket. If the gasket is torn or crushed so that it doesn't completely seal around the door perimeter, it should be replaced.
3) Remove top door hinge using a 7/16" box wrench or socket, being careful not to drop the door. Place door on a non-mar surface with the gasket side facing up.
4) Carefully remove the one-piece gasket from the slotted plastic extrusion built into the back of the freezer door. [**Note**: Plastic extrusion can be easily damaged. Using a razor knife to separate the old gasket from its retaining tailpiece may facilitate this procedure. Carefully remove the separated tailpiece from the slot by pulling toward each corner using small needle nose pliers. See Photos 2 and 3]
5) Take the new gasket [P/N 19000685] and insert the tailpiece into the gasket-mounting slot. Align the corners and start at the top of the door. Continue around the door perimeter until completely seated. [**Tip**: Place the door on a cushioned surface and carefully hammer the new gasket tailpiece into slot around the door perimeter.]
6) Re-install freezer door on bottom hinge with bushing, then mount the upper hinge. Be careful to align the door before tightening the hinge mounting bolts.

7) **Test** the replacement of the Freezer Door Gasket by:

8) Close the door and visually check the door seal and fit.
9) Turn on main power switch. Allow compressor to draw down Freezer Compartment temperature. Check with your hand around the full door perimeter for any leaks of cold air.

Tools Required:
- 7/16" [11 mm] socket wrench
- Razor knife
- Needle nose pliers
- Rubber mallet

[Photo 1]

The F3Dn freezer door is equipped with a one-piece magnetic door seal.

[Photo 2]

To speed replacement, just cut away the old door gasket from its tail piece.

[Photo 3]

Use a needle nose pliers to pull gasket tailpiece from slot.

[Photo 4]

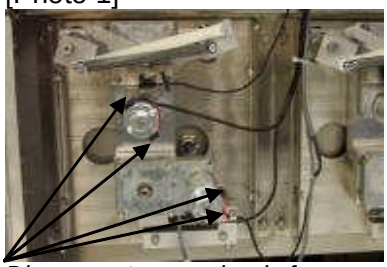
Align gasket tailpiece with door slot and hammer carefully into place around door perimeter.

Copyright © 2006 Franke, Inc. All rights reserved.

2.3 Automation Assembly Replacement [Part No. 18000567]

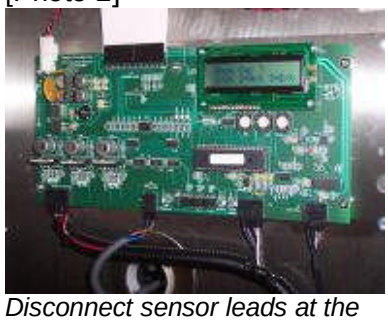
1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull plug.]
3) Remove two screws securing service panel.
4) Disconnect motor harness power connections from both the Basket [Present] and Door Lift Motors.
5) Disconnect both Basket [Present] and Door Open Sensor leads at the Main Control Board.
6) Remove the Hoppers from the refrigeration compartment, the stainless steel loading chutes and plastic freezer bottom, to expose the product dispensing doors.
7) Remove [and save] the spring retaining clip from the left side Door Rotation Block Pin. [Slip round loop over pin then remove.] Release tension on the spring and allow it to hang from the right side spring mounting screw.
8) Rotate doors down to expose the shaft mounting screws on both doors.
9) Using a 1/8" [3 mm] Allen/hex wrench, remove the three screws that attach each door to its pivot shaft.
10) Slide the Door Frame off the left door shaft.
11) Remove the rubber seal and hole cover from both Door Shafts.
12) Using a 7/16" [11 mm] box wrench or socket/wrench remove the four Automation Assembly mounting bolts from the side mounting channels.
13) Carefully remove the complete Automation Assembly, including door shafts, from the unit.
14) Install new Automation Assembly [P/N 18000567]. Replace and tighten the mounting bolts using your 7/16" [11 mm] wrench. [**Tip**: Don't fully tighten. Some mounting adjustment may be required. See Section 3.1]
15) Reinstall hole covers, gaskets, door frame and doors on door shafts. [**Tip**: See other Lane to verify assembly.]
16) Install freezer bottom for next adjustment.
17) Adjust Door Lift Assembly by minimal tightening of 7/16" [11 mm] bolts and then manually positioning the Door Lift Assembly front-to-back, so that the door frame is centered in the rectangular opening of freezer bottom.
18) With dispense doors in CLOSED position, adjust height of Door Lift Assembly so that dispense doors just "kiss" the freezer bottom to form a seal. [**Note**: Care should be taken to keep dispense doors level and centered in rectangular opening.] **[MORE…See 2.4 Continued]**

[Photo 1]



Disconnect power leads from both motors.

[Photo 2]



Disconnect sensor leads at the Main Control Board.

[Photo 3]

Open load doors from the front and remove three shaft-mounting screws on each.

[Photo 4]

Remove the four Automation Assembly mounting bolts.

Copyright © 2005 Franke, Inc. All rights reserved.

Rev. 1 6/06

2.3 Automation Assembly Replacement Continued: [Part No. 18000567]

Tools Required:
- 3/8" [10 mm] flat blade screw driver
- 1/8" [3 mm] Allen Wrench
- 7/16" [11 mm] box or socket wrench

19) Tighten all 7/16" [11 mm] bolts securely and recheck dispense door-to-bottom "kiss" seal for uniform fit.
20) Reattach power service wires to both motors [Red = positive, black = negative] and sensor leads to Main Control Board. [See other Lane to verify connections.]
21) Plug in unit power cord to power supply.

22) **Test** Automation Assembly operation by:
23) Turning on main power switch & pressing LANE-POWER touch pad on control overlay.
24) If LOAD READY light is on, position empty fry basket under hopper to activate fry loading cycle, if lane is in AUTO mode. If in MANUAL mode, press the MANUAL DISPENSE touch pad.
25) If Lane dispenses fries, it is working properly.

26) Close rear service access panel and return F3Dn Disperser to normal operating location.

Copyright © 2005 Franke, Inc. All rights reserved.

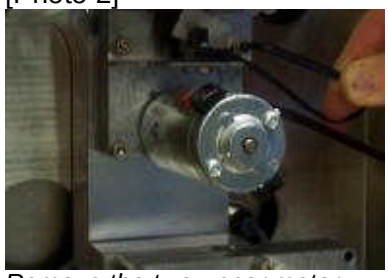
2.4 Door Lift Slide Replacement [Part No. 18000673]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Detach the Black and Red electric power connections from the Slide Lift and Door [Open] Motors.
5) Remove [and save] the spring retaining clip from the left side Door Rotation Block Pin. Slip round loop over pin then remove. Release tension on spring and allow it to hang from the right side spring mounting screw.
6) Remove the spring retaining clip from the right side of the white plastic Door Cam Link. Remove that link and the two small plastic shaft spacers.
7) From the front side rotate product doors down to expose the shaft mounting screws on both doors.
8) Using a 1/8" [3 mm] Allen/hex wrench, remove the three screws that attach each door to its pivot shaft.
9) Slide the Door Frame off the left door shaft.
10) Remove the rubber seal cover from both Door Shafts.
11) Using the 5/32" [4 mm] Allen/hex wrench, remove the four Door [Open] Motor mounting screws. Removing the two top screws will separate the Door Open Sensor & Bracket from the motor assembly. It can hang down from cable.
12) Using the 5/32" [4 mm] Allen/hex wrench, remove the four Door Lift Motor mounting screws. [This is the bottom motor.]
13) Carefully remove the motor and gearbox assembly from the machined aluminum Door Slide Lift Assembly.
14) Remove the Door Lift Shaft from the Slide Bearing Assembly.
15) Using a ¼" [6 mm] box wrench or socket, remove the four Door Lift Slide mounting bolts.
16) Pull Door Lift Slide sub-assembly [with shafts] out of cabinet and place on a convenient work surface.
17) Using a 'C' ring pliers, remove both retaining rings on the freezer side of each door mounting shaft. [Back retaining ring on each shaft should stay in place.]
18) Using a rubber mallet, tap door shafts out of Door Lift Slide bearings.
19) Take the replacement Door Lift Slide and use your rubber mallet to tap door shafts back into place.
20) Replace the two 'C' Rings on each shaft.
21) Reposition the sub-assembly back though the cabinet penetrations.

[Photo 1]

Remove the spring clip retainer from left side door rotation block pin, then relieve spring tension.

[Photo 2]



Remove the two upper motor mounting screws first.

[Photo 3]

Open load doors from the front and remove three shaft-mounting screws on each.

➢

Copyright © 2006 Franke, Inc. All rights reserved.

2.4 Door Lift Slide Replacement CONTINUED [Part No. 18000673]

22) Align the assembly and reinstall the four mounting bolts.
23) Reinstall hole covers, gaskets, door frame and doors on door shafts. [**Tip**: See other Lane to verify assembly.]
24) Install Door [Open] Motor assembly starting with the two bottom mounting screws. Remount Door Open Sensor & bracket using the two upper motor mount screws.
25) Reconnect the two motor electric power connections: [Red = positive; Black = negative].
26) Replace white plastic Door Cam Link, with Stop Screw to the right side. [Note: Make sure bushings and spacers are on both left and right cam pins, before replacing link.
27) Attach the spring retainer clip to right side Door Rotation Block pin.
28) Using both hands, extend spring eye to left side Door Rotation Block Pin. [**CAUTION**: Spring will be under tension and may snap back.] Plastic bushings must be installed in spring end loops, before mounting the spring.
29) Replace spring retaining clip and lock in place over pin.
30) Reposition the Door Lift Shaft in the Slide bearing Assembly.
31) Reinstall the Door Lift Motor Assembly [P/N 19000161]. Make sure the gear box output shaft fits into the slot in the lift cam.
32) Replace and tighten the four motor mounting screws using your 5/32" [4 mm] Allen wrench.
33) **IMPORTANT** - Check the gap or calibration of the load cell [weighs basket contents] under the motor by inserting a .020" [.50 mm] feeler or gap gauge between set post on left [open] side of load cell. [See Photo 6]
34) If load cell gap is larger or smaller than .020"/.50 mm, adjust gap set nut located below left side of load cell.
35) Attach power service wires to Door Lift Motor. [Red = positive, Black = negative]

Test the replacement Door Slide Lift as follows:

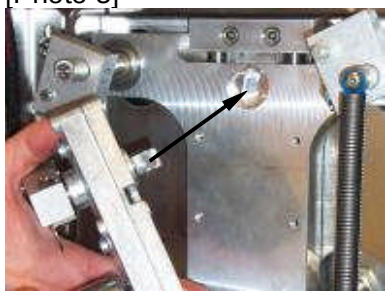
36) Plug in unit power cord to 120-volt power supply.
37) Turn on main power switch & pressing LANE-POWER touch pad on front control overlay.
38) If LOAD READY light is on, position empty fry basket under Hopper to activate fry loading cycle. [AUTO Mode]
39) If Lane properly dispenses fries, the Automation Assembly is working properly.

40) Close rear service access panel and return F3D Dispenser to normal operating location.

[Photo 4]

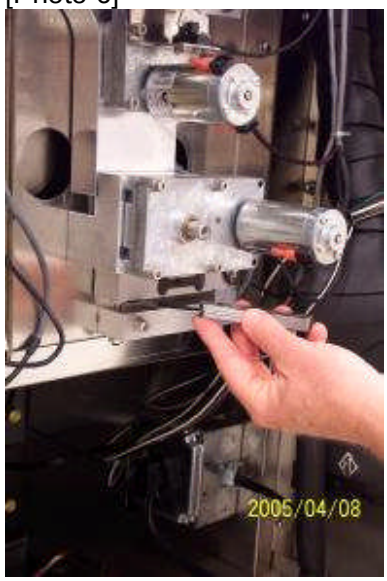
Remove the four motor mounting screws from the Door Lift Motor.

[Photo 5]



Ensure motor drive aligns with the slot in the slide plate counter bore.

[Photo 6]



After replacing this motor, check the gap on the load cell using a .020 [.50 mm] feeler or gap gauge.

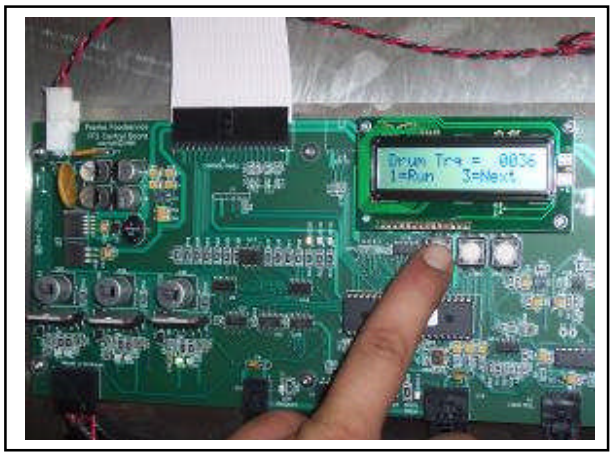
Rev. 1 9/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.5 Motor Test Procedure

Note: Follow this Motor Test Procedure before replacing:

- Drum Rotor Motor [Section 2.6]
- Door Lift Motor [Section 2.7]
- Door [Open] Motor [Section 2.8



1) Roll the unit out to allow easy access to rear service panel.
2) Leave unit plugged in but be cautions when opening unit back and touching Boards, etc.
3) Remove the two screws to open rear service access panel.
4) Go to Main Control Boards and locate the diagnostic display (upper right) and three white command buttons marked: **SW1**, **SW2** and **SW3**, just below the display surface mount.

Key: **Bold** type = Actual Display Content. ***//*** = Break to second line of Display

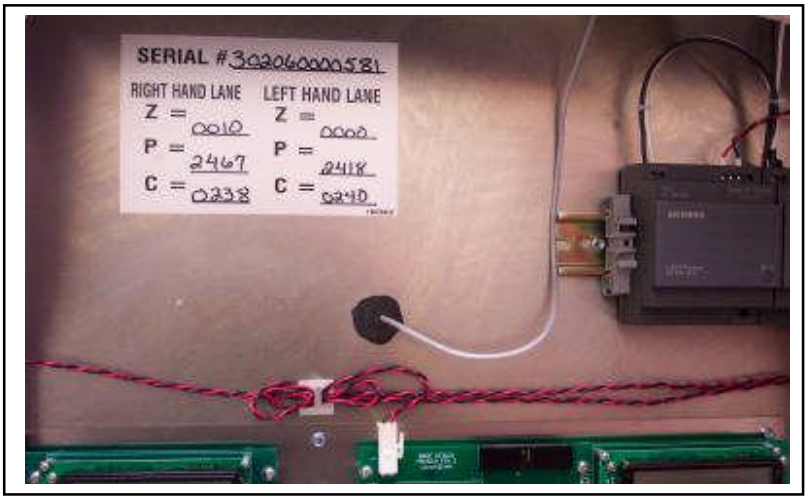
Step	Action Required	Resulting Diagnostic Display
1	From unit front turn Lane Power Touch Pad **ON**.	*Display will cycle through setup screens ending with:* **Stby** [Standby].
2	Push and hold buttons: SW1 **and** SW3:	**All Clear??** // **1=OK 3=Exit**
3	Press SW1 button. [=OK]	**U.S. or Alt??** // **1=US 2= Alt.** [Alternate]
4	Press SW1 **or** SW2 button as required. *[Procedure assumes SW1=US pressed.]*	**Preload = 2175** [Four digit number] **Add Large Load** [681 gm or 1.5 lbs.] // **1=OK**
Note: *Check to verify fries loading chute is in place and no stray fries are in loading area.*		
5	Press SW1 button. [=OK]	
6	Add 1.5 pound weight [or six 4:1 Patties] to lane product loading chute.	
7	Press SW1 button. [=Cal]	**Large = 226** // **Z =** ---- **P=** ---- **C=**---- // **Done 1= Cal 3 = Exit**
8	Press S3 button. [to exit Calibration Test]	
9	Press and hold S2 **and** S3 buttons	**Motor Test ?** // **1=OK 2= Nxt 3=Exit**
10	Press SW1 button. [=OK]	**Drum Mtr?** // **1= OK 3=Nxt** [Next]
11	Press SW1 button. [=OK]	**Drum Trq = 0000** [Torque value] // **1 = Run 3 = Next**
12	Press SW1 button to run motor. *Check motor shaft and listen for excessive noise.*	**Drum Trk = 00XX** *[Numeric value will change. A high number means a problem.]*
13	Press SW3 button [=Next Test].	**Lift Motor?** // **1 = OK 3 = Next**
14	Press SW1 button. [=OK]	**Trq = 0000 LC = 0000** [Load Cell] // **1 = Run 3 = Next**
15	Press SW1 button. *[Lowers slide, turns cam & motor rotates.]*	**Trq = 00XX** *[Typically small value]* **LC = XXXX** *[Live reading from Load Cell. Can check load cell function.]*

Copyright © 2006 Franke, Inc. All rights reserved.

2.5 Motor Test Procedure Continued:

Step	Action Required	Resulting Diagnostic Display
16	Press SW3 button. *[Go to next test.]*	**Door Motor?** // **1 = OK 3 = Nxt** [Next]
17	Press SW1 button. [=OK]	**Door Trq = 0000** // **1 = Go 3 = Ex** [Exit]
18	Press SW1 button. [Activates one full door-open & dispense cycle.]	**Door Trq = 00XX** [Typically a low value] // **1 = Go 3 = Ex XXX** [Cycle count]
19	Press SW3 button [=Next].	**Error Log ? 1 = OK 2 = Nxt 3 = Ext**
20	Press SW1 button. [=OK]	**FTO=000** [Fill Time Out – the number of occurrences] **DTQ=000** [Drum torque faults – number of occurrences] // **2 = Clr 3 = Rtn** [Return]
21	Press SW3 button [=Clear]	Resets FTO and DTQ counters to "**000**"
22	Press SW3 button [=Rtn]	**Show Cal ?** // **1 = OK 2 = Nxt 3 = Ext**
23	Press SW1 button [=OK]	**Z = 00000 C= 00024 P = 02145** // **1 = OK 3 = Ext** [Values should be close to those on sticker. See photo below.]
24	Press SW3 button [=OK]	**Motor Tests ? 1 = OK 2 = Nxt 3 = Ext**
25	Press SW3 button [=Exit]	**Shut Lift /Stby** [Standby]

Specific **base-level** Diagnostic Values are logged at Plant and posted on back of unit above Main Control Boards.



- To Replace Drum Rotor Motor…See **Section 2.6**
- To Replace Door Lift Motor…See **Section 2.7**
- To Replace Door [Open] Motor…**See Section 2.8**

➢

For Technical Support, Call 800-537-2653.

Copyright © 2006 Franke, Inc. All rights reserved.

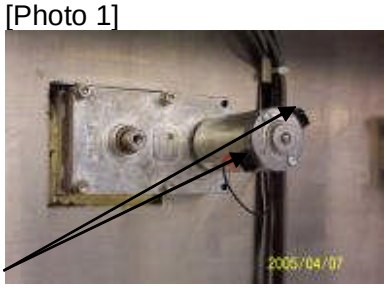
2.6 Drum Rotor Motor Replacement [Part No. 19000161]

1) Roll unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Disconnect both motor harness power connections.
5) Using a 5/32” [4 mm] Allen Wrench, remove the four motor mounting screws.
6) Remove motor by pulling straight out. Motor Rotor Block will remain in place.
7) Install new Drum Rotor Motor [P/N 19000161]. Ensure motor gear case drive shaft engages rectangular slot in plastic Rotor Drive Shaft.
8) Replace and tighten the four motor mounting screws using your 5/32” [4 mm] Allen Wrench.
9) Reattach power leads to motor: [Red = positive, Black = negative]
10) Reconnect unit to power supply.

11) **Test** for proper motor operation by:
12) Turning ON main power switch & pressing LANE-POWER touch pad on control overlay.
13) If LOAD READY light is on, position empty fry basket under hopper to activate loading cycle in AUTO Mode. In MANUAL Mode press MANUAL DISPENSE touch pad.
14) If Fry Hopper is empty, place screwdriver or knife blade in front of load sensor to trick the dispenser.
15) Position an empty fry basket in the fill chute.
16) If lane dispenses fries [if present] or if rotors turn smoothly in an attempt to dispense fries, the motor is working properly.

17) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



Disconnect motor power leads.

[Photo 2]

Remove the four motor mounting screws.

🛠Tools Required:

- 3/8” [10 mm] flat blade screw driver
- 5/32” [4 mm] Allen Wrench

Rev. 1 9/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.7 Door Lift Motor Replacement [Part No. 19000161]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Disconnect motor harness power connections from the [lower] Door Lift Motor.
5) Using a 5/32" [4 mm] Allen/hex wrench, remove the four motor mounting screws. [They are all the same length.]
6) Carefully remove the motor and gearbox assembly from the machined aluminum Slide Bearing Assembly.
7) Install the new Door Lift Motor Assembly [P/N 19000161]. Make sure the gear box output shaft fits into the slot in the lift cam.
8) Replace and tighten the four mounting screws using your 5/32" [4 mm] Allen wrench.
9) **IMPORTANT** - Check the gap or calibration of the load cell [weighs basket contents] under the motor by inserting a .020" [.50 mm] feeler or gap gauge between set post on left [open] side of load cell. [See Photo 3]
10) If load cell gap is larger or smaller than .020" [.50 mm], carefully adjust gap set nut located below left side of load cell.
11) Attach power service wires to new Door Lift Motor. [Red = positive, Black = negative]
12) Plug in unit power cord to power supply.

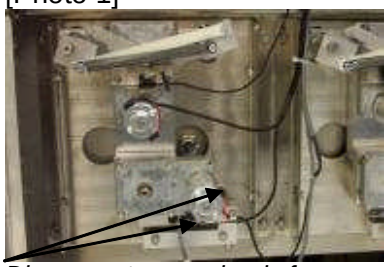
Test the replacement Door Lift Motor as follows:

13) Turn on main power switch & pressing LANE-POWER touch pad on control overlay.
14) If LOAD READY light is on, position empty fry basket under hopper to activate fry loading cycle in AUTO Mode. In MANUAL Mode press MANUAL DISPENSE touch pad.
15) If Lane properly dispenses fries, it is working properly.

16) Close rear service access panel and return F3Dn Dispenser to normal operating location.

➢

[Photo 1]

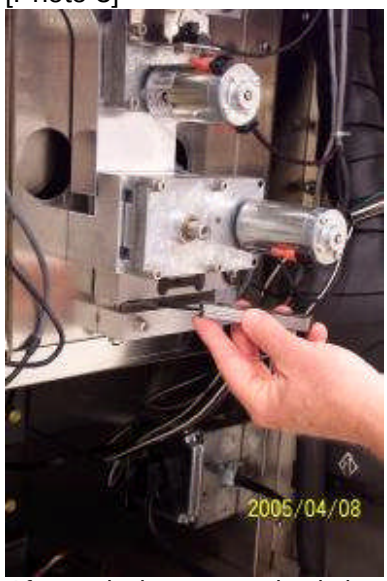


Disconnect power leads from [lower] Door Lift Motor.

[Photo 2]

Remove the four motor mounting screws.

[Photo 3]



After replacing motor, check the gap on the load cell using a .020"/.50 mm feeler or gap gauge.

Rev. 1 9/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.8 Door [Open] Motor Replacement [Part No. 18000558]

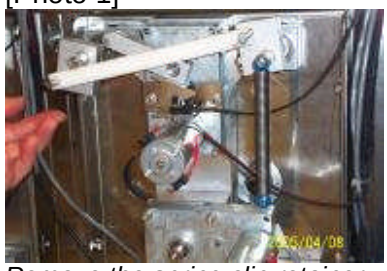
1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Remove [and save] the spring retaining clip from the left side Door Rotation Block Pin. Slip round loop over pin then remove. Release tension on spring and allow it to hang from the right side spring mounting screw.
5) Remove the spring retaining clip from the right side of the white plastic Door Cam Link. Remove that link. [You don't need to remove the small plastic shaft spacers.]
6) Using the 5/32" [4 mm] Allen/hex wrench, remove the four motor mounting screws, beginning with the two TOP screws.
7) Removing the longer top screws will separate the Door Open Sensor & Bracket from the motor assembly.
8) Detach the two motor electric power connections.
9) Install new motor assembly [P/N 18000558] starting with the two bottom mounting screws.
10) Remount Door Open Sensor & bracket using the two upper motor mount screws.
11) Reconnect the two motor electric power connections: [Red = positive; Black = negative].
12) Replace white plastic Door Cam Link, with Stop Screw to the right side. [**Note**: Make sure bushings and spacers are on both left and right cam pins, before replacing link.]
13) Attach the spring retainer clip to right side Door Rotation Block pin.
14) Using both hands, extend spring eye to left side Door Rotation Block Pin. [**CAUTION**: Spring will be under tension and may snap back.] Plastic bushings must be installed in spring end loops, before mounting the spring.
15) Replace spring retaining clip and lock in place over pin.

Test the replacement Door [Open] Motor as follows:

16) Plug in unit power cord to power outlet.
17) Turn on main power switch & pressing LANE-POWER touch pad on front control overlay.
18) If LOAD READY light is on, position empty fry basket under Hopper to activate fry loading cycle in AUTO Mode. In MANUAL Mode press MANUAL DISPENSE.
19) If Lane properly dispenses fries, replacement Motor and dispensing assembly is working properly.

20) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]

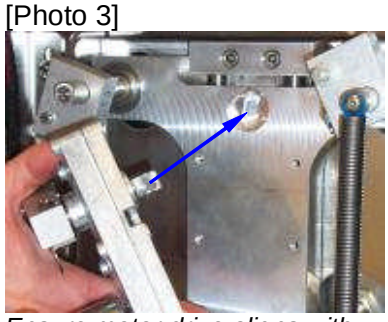


Remove the spring clip retainer from left side door rotation block pin, then relieve spring tension.

[Photo 2]

Remove the two upper motor mounting screws first.

[Photo 3]



Ensure motor drive aligns with the slot in the slide plate counter bore.

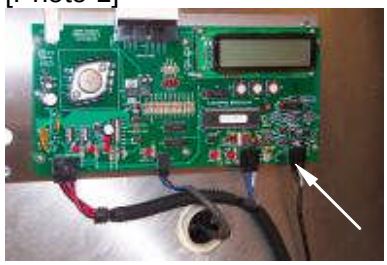
➢

Copyright © 2006 Franke, Inc. All rights reserved.

2.9 Load Cell Replacement [Part No. 19000165]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Disconnect Load Cell cable lead at Main Control Board. [See Photo 1]
5) Carefully open split in plastic wire harness sheath to free cable all the way down to Load Cell.
6) Using a 3/16" [5 mm] Allen/hex wrench, remove the two Load Cell bracket screws and remove assembly.
7) Using a 5 mm Allen/hex wrench separate the Load Cell from its Mounting Bracket by removing the two right-side screws.
8) Re-attach the new Load Cell to the old Bracket with the mounting screws just removed. **IMPORTANT** – when mounted on assembly, there must be clearance between back of load cell and assembly mounting plate.
9) Remount the Load Cell Assembly and tighten the two mounting screws using your 3/16" [5 mm] Allen wrench.
10) **IMPORTANT** – After installation, check the gap of the load cell [weighs basket contents] by inserting a .020" [.50 mm] feeler or gap gauge between set post on left [open] side of load cell. [See Photo 4]
11) If load cell gap is larger or smaller than .020", carefully adjust gap set nut located below left side of load cell.
12) Reroute Load Cell cable lead back up to the Main Control Board and re-attach terminal.
13) Re-route and bundle cable in flexible plastic harness sheath. Use plastic ties, if needed.
14) Plug in unit power cord to power supply.
15) **Test** the replacement of the Load Cell as follows:
16) Turn on main power switch & pressing LANE-POWER touch pad on control overlay.
17) If LOAD READY light is on, position empty fry basket under hopper to activate fry loading cycle in AUTO Mode. In MANUAL Mode press MANUAL DISPENSE.
18) If Lane properly dispenses fries, it is working properly.
19) [NOTE: It may be necessary to recalibrate load cell using procedure provided with replacement unit.
20) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



Disconnect Load Cell cable connector at Main Control Board.

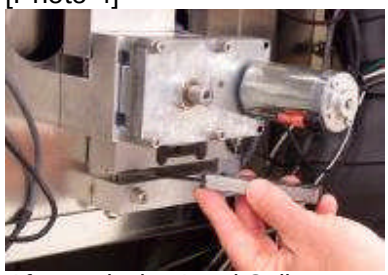
[Photo 2]

Remove the two Load Cell Bracket mounting screws.

[Photo 3]

Separate Load Cell from the mounting bracket by removing screw on right side of assembly.

[Photo 4]



After replacing Load Cell Assembly, check the gap on the load cell using a .020 [.50 mm] feeler or gap gauge.

Copyright © 2006 Franke, Inc. All rights reserved.

2.10 Door-Closing Spring & Bushing Replacement [Part No. 19001676]

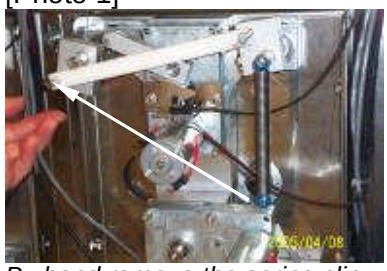
1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Locate broken or weak/extended Door-Closing Spring.
5) Remove [and save] the spring retaining clip from the left side Door Rotation Block Pin. Slip round loop over pin then remove.
6) Remove and discard partial, extended or broken spring.
7) Using a 1/8" [3 mm] Allen wrench, remove the right side spring mounting screw and discard remainder of spring.
8) Install the new Door Spring with plastic bushings in end loops [P/N 19001676] by replacing right side retaining screw and tightening with 1/8" [3 mm] Allen wrench.
9) Using both hands, extend spring eye to left side Door Rotation Block Pin. [**CAUTION**: Spring will be under tension and may snap back.]
10) Replace spring retaining clip and lock in place over pin.

Test the replacement Door-Closing Spring as follows:

11) Remove Fry Hopper and Loading Chute from Lane.
12) Manually rotate product doors against spring tension. Ensure both doors open in unison and 90 degrees down to full open.
13) Reassemble loading chute and fry hopper, then close the freezer door.
14) Plug in unit power cord to power supply.
15) Turn on main power switch & pressing LANE-POWER touch pad on operator panel.
16) If LOAD READY light is on, position empty fry basket under Hopper to activate fry loading cycle in AUTO Mode. In MANUAL Mode press MANUAL DISPENSE touch pad.
17) If Lane properly dispenses fries, replacement spring is working properly.

18) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



By hand remove the spring clip retainer from left side door rotation block pin.

[Photo 2]

Use a 1/8" Allen Wrench to remove and later tighten right side spring retaining screw.

[Photo 3]

Test new spring by manually opening product doors against spring tension. Both doors should rotate down against resistance of the extension spring.

➢

Rev. 1 9/06

Copyright © 2006 Franke, Inc. All rights reserved.

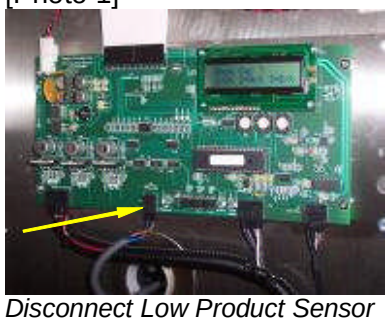
2.11 Low Product Sensor Replacement [Part No. 19000384]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Disconnect Low Product Sensor cable lead at Main Control Board. [See Photo 1]
5) Use a 'C' Ring pliers to remove the external 'C' Ring retainer from the Low Product Sensor Sleeve.
6) Remove the retaining washer with its formed finger retainer.
7) The Low Product Sensor slides out of the outer sleeve but must be unscrewed counterclockwise to break the soft sealant (on front of the sensor) from outer sleeve.
8) Take new Low Product Sensor [P/N 19000384] and apply a small amount of silicone sealant to the nose then slide it back into the plastic sensor sleeve.
9) Replace the retaining washer over the sensor sleeve, being careful to insert the retaining finger into the receiving slot on the sleeve.
10) Re-insert the external 'C' Ring.
11) Reattach the Low Product sensor cable lead to the Main Control Board terminal.
12) Plug in unit power cord to power supply.

13) **Adjust Low Product Sensor Sensitivity** by:
14) Position an empty hopper in the freezer compartment.
15) Locate the small red plastic LED indicator light on the Main Control Board. [It is labeled: Low Product]
16) Open the small plastic cover on the back of the sensor with your fingertips or the small plastic screwdriver.
17) Using the a small plastic screwdriver provided, slowly turn the adjustment screw on the sensor clockwise until the LED light comes **ON**, then back that screw counterclockwise until the LED light just goes **OFF**.

18) **Test** the Low Product Sensor by:
19) Fill the Lane Hopper with fries to a level above the Low Product Sensor. Switch ON main power on front panel. Press and turn ON Lane at front Control Panel. If LOW PRODUCT light comes on, repeat Sensor sensitivity adjustment described in Step 15.
20) If this sensor adjustment corrects problem, replace small plastic plug in back of Low Product Sensor. **NOTE**: this plug must me closed to avoid water getting in sensor.
21) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



Disconnect Low Product Sensor cable connector at Main Control Board.

[Photo 2]

Remove the inner 'C' Ring retainer and screw out the sensor.

[Photo 3]

After removing the small plastic plug, use the plastic 1/16" screwdriver provided to adjust sensor sensitivity.

➢

Copyright © 2006 Franke, Inc. All rights reserved.

2.12 Basket-Present Sensor Replacement [Part No. 19000182]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull power cord plug.]
3) Remove two screws securing service access panel.
4) Locate Basket-Present Sensor cable lead connection to Main Control Board. [See Photo 1]
5) Disconnect Basket Present Sensor cable where it mates to main wiring harness, just above Door Open Assembly. [See Photo 2]
6) Using a crescent wrench or 1" [25 mm] box wrench, unscrew the sensor-retaining nut from the Basket-Present Sensor Sleeve. [See Photo 3]
7) The Basket-Present Sensor must be unscrewed counterclockwise from the mounting block. [The plastic threads are very fine, so this will take some time.]
8) Take the new Basket-Present Sensor [P/N 19000182] and screw [clockwise] back into plastic sensor sleeve, until fully seated.
9) Replace the sensor-retaining nut and tighten securely with wrench, but do NOT over-tighten.
10) Reattach the Basket-Present Sensor cable lead to the Main Wiring Harness. [See Photo 2]
11) Plug in unit power cord to power supply.

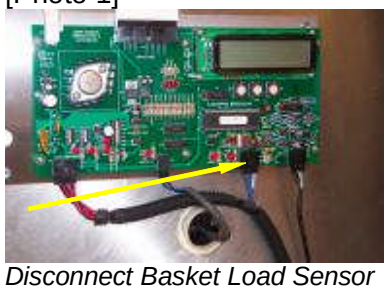
Test the new Basket-Present Sensor by:

12) Filling the Lane Hopper with Fries to a level past the Low Product Sensor. Switch ON main power on front panel. Press LANE POWER and turn on Lane at the front Control Panel. **NOTE**: Make sure Lane is in AUTO Mode.
13) When LOAD READY light comes ON, insert empty fry basket into loading position. If fries are dispensed, Basket-Present Sensor is functioning properly.
14) **NOTE**: A green indicator on the back of the sensor comes on when it senses the basket.

15) Close rear service access panel and return F3Dn Dispenser to normal operating location.

➢

[Photo 1]



Disconnect Basket Load Sensor cable connector at Main Control Board.

[Photo 2]

The Basket-Present Sensor's cable can be disconnected from the main wiring harness.

[Photo 3]

Remove sensor-retaining nut with wrench and screw out the basket sensor.

Rev. 1 12/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.13 Door-Open Sensor Replacement [Part No. 19000192]

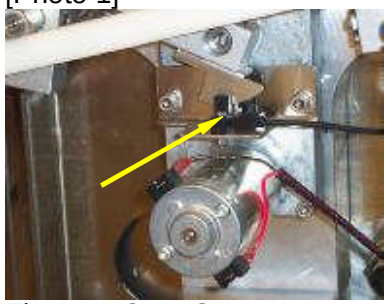
1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull plug.]
3) Using the medium Phillips screwdriver, remove two screws securing service access panel.
4) Disconnect Door-Open Sensor cable lead from the wiring harness.
5) Using the 5/32” [4 mm] Allen/hex wrench, remove the top two [Door Open] motor mounting screws only.
6) Remove the Door Open Sensor & Bracket from the motor assembly. Slide the sensor bracket to the right, clearing the sensor flag or fin. Unscrew sensor mounting screws to remove sensor from the bracket.
7) Position new Door Open Sensor [P/N 19000192] on the mounting bracket and attach using the two screws just removed.
8) Position new sensor and bracket over motor mounting holes. Ensure actuating flag is spaced midway within sensor slot.
9) Replace and tighten the two upper motor mounting screws using the 5/32” [4 mm] Allen/hex wrench.
10) Reattach the new Door Open Sensor cable lead to the motor wiring harness.

Test the replacement Door-Open Sensor as follows:

11) Plug in unit power cord to power supply.
12) Turn on main power switch & pressing LANE POWER touch pad on front control panel. **NOTE**: Make sure Lane is in AUTO Mode.
13) If LOAD READY light is on, position empty fry basket under Hopper to activate fry loading cycle.
14) If Lane properly dispenses fries, replacement Door-Open Sensor and dispensing assembly is working properly.

15) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



The Door Open Sensor & Bracket is mounted with the upper [Basket Lift] motor mounting screws.

[Photo 2]

Use 5/32” Allen/hex wrench to remove and tighten mounting screws.

➢

Rev. 2 10/06

Copyright © 2005 Franke, Inc. All rights reserved.

2.14 Touch Pad Controls Replacement [Part No. 19000798]

1) Disconnect power at outlet. [Pull plug.]
2) If needed, position a stepladder or stable work platform to access the top of the F3Dn Control Panel.
3) Using a medium Phillips screwdriver, remove the two top control panel mounting screws.
4) Carefully tilt back the black control panel to expose the unit control wiring ribbons, cable harnesses and green & yellow ground wire.
5) Disconnect the two control ribbon harnesses, the Power-ON switch and Temperature Display wiring connectors and ground wire lead, to separate the control panel from unit. **NOTE**: Do not allow control panel to hang from wiring and/or ribbon harness.
6) Move Control Panel to a convenient, level work surface.
7) Using the 3/8" [10 mm] nut driver, remover the six backing plate mounting nuts from the Lane Operator Panel Display that requires replacement.
8) Remove the backing plate and then the old touch pad.
9) Position the replacement Operator Touch Panel Assembly [P/N 19000798] in the opening of the front control panel frame.
10) Replace the backing plate and secure using the six mounting nuts just removed.
11) Return the control panel assembly to the unit and reattach the two ribbon harnesses, Power-ON and Temperature Display wiring connectors and ground wire connection. **CAUTION**: Make sure ground is attached.
12) Put Control Panel Assembly back in mounting position and secure with the two Phillips screws removed earlier.
13) Plug in unit power cord to power supply.

Test the new Lane Touch Pad Controls Assembly by:

14) Filling the Lane Hopper with Fries to a level past the Low Product Sensor.
15) Switch ON main power switch on the front control panel.
16) Press and turn on LANE POWER at the front control panel. **NOTE**: Make sure Lane is in AUTO Mode.
17) When LOAD READY light comes ON, test operation of LOAD SIZE touch pad by cycling through: LARGE, SMALL, MEDIUM and LARGE settings.
18) Insert empty fry basket into loading position. If fries are properly dispensed, the Lane Touch Pad Controls are functioning properly.

19) Return F3Dn Dispenser to normal operating location.

[Photo 1]

Lane Operator Panel Controls

[Photo 2]

Remove the two top front panel mounting screws to access the Touch Pad Control Assemblies.

[Photo 3]

Disconnect both lane ribbon harness connections, Power Switch & Temperature Display terminal connections and ground lead to completely separate control panel from dispenser.

➢

Rev. 2 10/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.15 Main Power ON/OFF Switch Replacement [120V/60Hz use Part No. 3126151] [230V/50Hz use Part No. RH110-C2L]

1) Disconnect power at outlet. [Pull plug.]
2) If needed, position a stepladder or stable work platform to access the top of the F3Dn Control Panel.
3) Using a medium Phillips screwdriver, remove the two top control panel mounting screws.
4) Carefully tilt forward the black control panel cover assembly. It can remain attached to the control wiring ribbon and cable wiring harnesses, but support the weight with one hand or get help to hold it.
5) Note wire numbers and mounting sequence on back of power switch. Remove the three terminal connections from the Power ON/OFF Switch.
6) From the back carefully depress the plastic locking tabs on either side of the switch and push the switch out through the panel front.
7) Take the new Power ON/OFF Switch [120V/60Hz = P/N: 3126151; 230/V/50Hz = RH110-C2L] and push it through the front panel opening until the side tabs lock it in place. Switch bezel should be flush with the front panel.
8) Reconnect the three switch wires. When viewed from back of switch, the wires are connected:
   - **120V/60Hz**: T1 = Brown, T2 (center) = Black (L1), T3 = White (Neutral)
   - **230V/50Hz**; T1 = Brown, T2 (center) = Brown, T3 = Blue (Neutral)
9) Return the control panel assembly to the mounting position and install the two mounting screws.
10) Plug in unit power cord to power supply.

Test the new Power ON/OFF Switch by:

11) Switch on Main Power Switch at the front control panel. Integrated [red] pilot light should come on and you should hear the compressor come on, after a short delay.
12) Press the LANE POWER touch pad for both Lanes. If both Lane [MANUAL] lights come on, the Main Power Switch is functioning properly.

13) Return F3Dn Dispenser to normal operating location, if it was moved.

[Photo 1]

Remove the two top panel mounting screws to access the front control assemblies. (120V/60Hz model shown)

[Photo 2]

Remove the three switch terminal leads, depress plastic locking tabs and push out the Power ON/OFF switch through panel front.

Rev. 2 12/06

Copyright © 2005 Franke, Inc. All rights reserved.

2.16 LED Unit Temperature Display Replacement [Part No. 19000437]

1) Disconnect power at outlet. [Pull plug.]
2) If needed, position a stepladder or stable work platform to access the top of the F3Dn Control Panel.
3) Remove the two top control panel mounting screws.
4) Carefully remove the black control panel cover assembly. It can remain attached to the unit with control wiring ribbon and cable wiring harnesses, but support it with ladder or get help to hold it. **NOTE**: Do not let control panel dangle from ribbon and cable harnesses.
5) Disconnect the display cable connector [routed from the temperature controller located inside electric chase] from back of the remote display.
6) From the back of the control panel, carefully release the two locking hairpin clips on either side of the LED Display module using a small flat blade screwdriver and pull it through cutout in the front of the panel.
7) Take the new LED Temperature Display [P/N: 19000437] and insert it into the front panel. From back of the display depress and insert locking tabs to secure remote display.
8) Reconnect the display sensor connector to display.
9) Return the front control panel assembly to the mounting position and install the two mounting screws.
10) Plug in unit power cord to power supply.

Test the new LED Temperature Display by:

11) Switch on Main Power Switch at the front control panel.
12) The temperature display should show the current freezer compartment temperature and track the pull-down to a safe operating temperature range of 0 to -10° F [-18 to -23° C].

> **NOTE:** If new remote temperature display doesn't fix the problem, see Section 4.2 [Thermostat Replacement] for further options.

13) If new Temperature Display functions normally, return F3Dn Dispenser to normal operating location, if it was moved.

[Photo 1]

Remove the two top front panel mounting screws to access the front control assemblies.

[Photo 2]

Disconnect display harness connector from display. Remove right & left plastic retainers and push LED Display out through panel front.

Rev. 2 10/06

Copyright © 2006 Franke, Inc. All rights reserved.

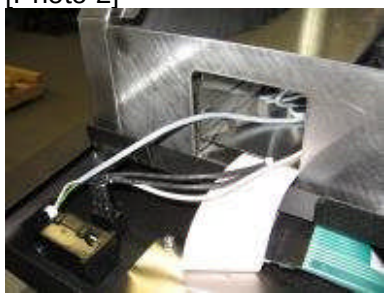
2.16A Freezer Temperature Controller - Sensor Cable Replacement [Part No. 19000648]

1) Disconnect power at outlet. [Pull plug.]
2) If needed, position a stepladder or stable work platform to access the top of the F3Dn Control Panel.
3) Remove the two top control panel mounting screws and four screws securing the sloped access panel. **NOTE**: Do not let control panel dangle from its ribbon and cable harnesses.
4) The Danfoss Thermostat is mounted inside an electric chase and has a control with attached sensor cable. Remove the four screws holding the chase cover in place to reveal the thermostat. [If necessary, remove the press fit knob and then the hex nut holding the thermostat to the electric chase.]
5) Disconnect the sensor cable from the temperature controller.
6) Pull unit out to access rear service panels.
7) Open back service access panel and identify sensor cable penetration point into the freezer compartment. It is just above the main PC boards.
8) Remove the soft putty sealant and gently pull faulty sensor cable through hole toward back of unit. **NOTE:** If resistance is encountered, it may be necessary to loosen or remove four mounting hex bolts securing Center Hopper Support Bracket inside freezer, to allow sensor bulb to pass through. Use a 13 mm Allen/Hex wrench.
9) Clip any cable ties holding sensor cable in place and remove the cable and sensor.
10) Install new sensor cable bulb through freezer wall and ensure it is correctly positioned inside the protective box attached to the Hopper Center Support Bracket.
11) Tighten four hex bolts for the center support **finger tight**, being careful not to pinch the sensor cable.
12) Replace insulating putty around freezer compartment penetration.
13) Route sensor cable up the back of the unit, into the electric chase and plug connector end into Danfoss temperature control.
14) If temperature control was removed, remount it to electric chase and tighten hex nut.
15) Installed numbered knob onto temperature control adjustment shaft. Align flat on knob and shaft then gently press fit.
16) Using screws previously removed, close and secure the electric chase cover.

[Photo 1]

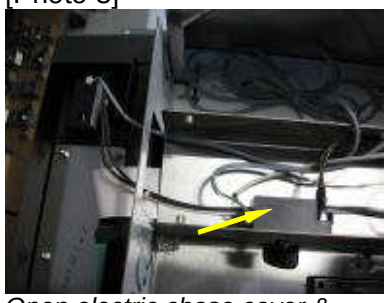
Remove the two top front panel-mounting screws and four sloped access panel screws.

[Photo 2]



Grey cable from Temperature Display runs to Temperature Controller through chase.

[Photo 3]



Open electric chase cover & disconnect sensor cable from Danfoss temperature controller.

[Photo 4]

From rear of unit locate penetration where sensor enters refrigeration compartment and remove putty.

Copyright © 2006 Franke, Inc. All rights reserved.

2.16A Freezer Temperature Controller - Sensor Cable Replacement [Part No. 19000648] – Continued…

17) Using the 13 mm hex wrench tighten the four hex nuts that secure the Hopper Center Support Bracket.
18) Install the two hoppers and ensure they are properly aligned and parallel. [For help in adjusting hopper alignment, see Section 3.6.]
19) Using plastic wire ties, secure sensor in place on back of unit.
20) Verify the thermostat adjustment knob is set between 4 and 6.

Test the new Sensor Replacement Cable by:

21) Plug in unit power cord to power supply.
22) Switch on Main Power Switch at the front control panel.
23) Allow compressor to draw down unit to its normal operating temperature range, which should be 0 to -10° F [-18 to -23° C]. Cool down time of 1-1/2 to two hours is normal.

> **NOTE:** If new Temperature Display [Section 2.16] and new Sensor Cable don't fix the problem, see Section 4.2 [Thermostat Replacement] for further options.

24) If F3Dn functions normally, close sloped service access panel and front control panel, close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 5]

Sensor bulb slides into a protective box mounted on the Hopper Center Support Bracket.

[Photo 6]

Unit ships from factory with thermostat set at 5. [Dial range is from 1-9.]

Rev 1 11/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.17 24-Volt Power Supply Replacement [Part No. 3156 (Siemens)]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull plug.]
3) Remove screw that secures back service access panel.
4) Locate the two DIN rail mounted 24-volt power supplies, one for each dispense Lane. [Left power supply serves the left Lane, etc.]
5) Use a 1/8" [3 mm] flat blade screwdriver to disconnect the white and black [120-volt] wires or brown and blue [230-volt]] wires that come into the power supply from the top.
6) Disconnect the 24-volt braided lead at the Main Control Board. [See Photo 2] Using the small screwdriver, disconnect the red and black leads from 24-volt power supply.
7) Using a ¼" [6-7 mm] flat blade screwdriver, depress or lever downward the plastic release tab, which is located below and in the center of the power supply case. This will release power supply from the bottom of DIN rail and allow you to remove the power supply. [See Photo 3]
8) Take new 24-volt power supply [P/N: 3156] and position rear slot over upper edge of DIN rail and snap it down and into place. Make sure it is firmly seated.
9) Reconnect red and black leads on braided harness to the new power supply. Red = positive, Black = negative.
10) Plug 24-volt braided lead back into the Main Control Board. [See Photo 2.]
11) Reconnect wires: [120-volt = black and white] or [240-volt = brown and blue] to the top of the transformer. [Black or Brown wire = L, White or Blue wire = N]
12) Plug in unit power cord to power supply.

Test the new 24-volt Power Supply by:

13) Switch ON Main Power Switch at the front control panel.
14) A small green LED will light on the power supply, indicating it is functioning properly. [You will also hear the compressor come on to begin freezer compartment chilling.]

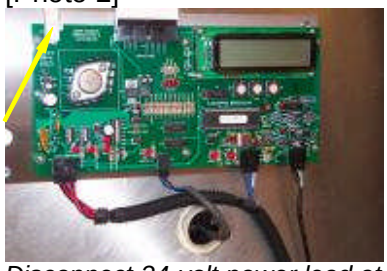
15) Close rear service access panel and return F3Dn Dispenser to normal operating location.

➢

[Photo 1]

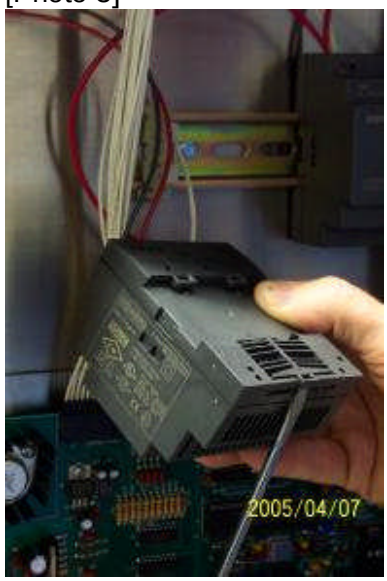
Two 24-volt Power Supplies are DIN rail mounted. Note separate routing of line voltage and 24-volt wiring.

[Photo 2]



Disconnect 24-volt power lead at Main Control Board.

[Photo 3]



Using a flat blade screwdriver, depress the tab below the power supply bottom case, to release it from the DIN mounting rail.

Rev. 2 10/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.18 Main Control Board Replacement [Part No. 19000800]

1) Roll the unit out to allow access to rear service panel.
2) Disconnect power at outlet. [Pull plug.]
3) Remove screw that secures rear service access panel.
4) Locate the Main Control Panel for the Lane that requires replacement.
5) Disconnect the six terminal connectors that plug into the Main Control Board, to include:
   - Ribbon harness from Controls Touch Pad [J9]
   - Cable connector from Basket Load & Door-Open Sensor [J14]
   - Cable connector from Low Product Sensor [J18]
   - Cable connector from Load Cell [J12]
   - Harness connector to three Motors [J3]
   - Braided Lead from 24-volt Power Supply [J11]
6) Using a 1/8" [3 mm] Allen/hex wrench, remove the six board mounting screws.
7) Take new Main Control Panel [P/N: 19000800] from its protective package and position and align with mounting holes.
8) Using the 1/8" [3 mm] Allen/hex wrench, replace the six board mounting screws. DO NOT OVERTIGHTEN!
9) Replace all six harness and cable connections. Make sure terminals are fully engaged.
10) Plug in unit power cord to power supply.

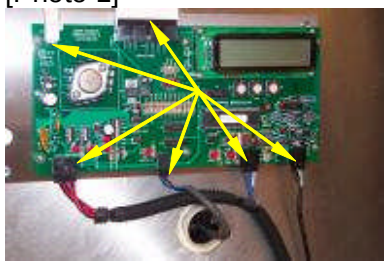
> **Note**: Load Cell Calibration is required when the Main Control Board is replaced. **See Section 3.7 for calibration instructions**.

Test the new Main Control Board by:

11) Switch ON Main Power Switch at the front control panel.
12) Press LANE-POWER touch pad for that Lane.
13) If LOAD READY light comes on, position empty fry basket under Hopper in basket guide, to activate the fry load cycle [in AUTO Mode]. In MANUAL Mode, press MANUAL DISPENSE.
14) If Lane properly dispenses fries, it is working properly.

15) Close rear service access panel and return F3Dn Dispenser to normal operating location.

[Photo 1]



Disconnect all six cable and harness connections from Main Control Board.

➢

Rev. 2 10/06

Copyright © 2006 Franke, Inc. All rights reserved.

2.19 Main Control Board Chip Replacement [Part No. 18000812 – Latest Version No.]

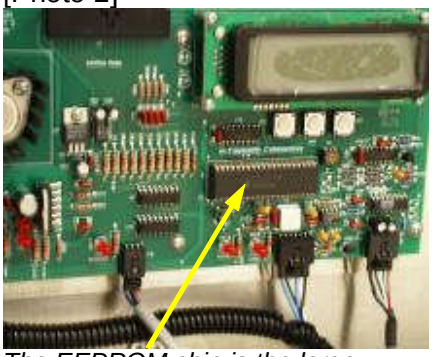
1) Turn the individual lanes OFF by pressing and holding the individual LANE POWER button until the AUTO and MANUAL light goes out.
2) Pull the dispenser away from the wall so you can easily access the rear of the unit.
3) Disconnect power at outlet. [Pull plug.]
4) Remove two screws that secure rear access panel.
5) Locate the (2) circuit boards and the EEPROM chip located on each board. (These are the chips to be replaced.)
6) Carefully insert the small screwdriver (included) between the chip and the saddle as shown in Photo 3. Be careful NOT to insert the screwdriver below the saddle.
7) Gently pry the chip out of the saddle, being careful not to damage any other components on the circuit board.
8) Once the chip is nearly unseated, it can be pulled straight out using your hand. You can now see the chip saddle still in place on the circuit board.
9) Carefully remove the replacement chip from it's packaging. It is important that static electricity be avoided while handling the chip.
10) **Note:** Be careful not to install the chip upside down. The semi-circular notch on one end of the chip should align with the similar notch on the left side of the saddle.
11) With the notch on the chip to the left, matching the notch on the saddle. Carefully insert the chip into the saddle. It is recommended that the lower set of pins be aligned with the lower set of slots, then the upper set of pins aligned with the upper set of slots on the saddle. Then carefully press the chip into place until it is fully seated. Apply light pressure all along the chip to make sure that all pins are fully inserted into their corresponding slot.
12) With the chip(s) changed, the dispenser is now ready to be calibrated. **Please refer to Section 3.7 for instructions on how to calibrate the dispenser.** Do not reinstall the access panel. It must be off to calibrate.

[See additional detailed photos on page 2.]

[Photo 1]

Remove screws to remove the rear service access panel.

[Photo 2]



The EEPROM chip is the large chip below the LCD Display.

[Photo 3]

Carefully insert the small screwdriver between the chip and the saddle at the small notch on the left side.

🛠 Tools Required

- 3/8" [10 mm] flat blade screw driver
- Small Chip-Replacement screw driver (Provided)

Rev. 2 10/06

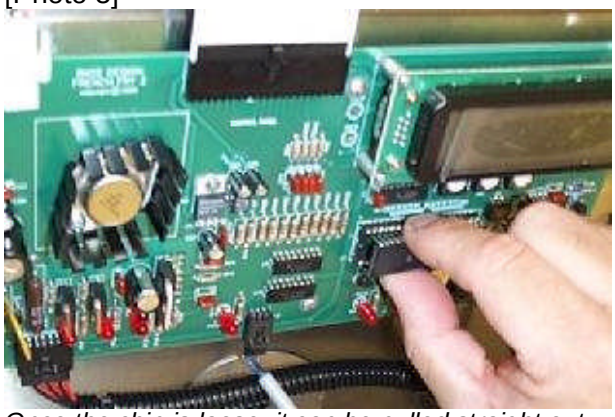
Copyright © 2006 Franke, Inc. All rights reserved.

Main Control Board Chip Replacement Photos Continued… [Part No. 18000812]

[Photo 4]

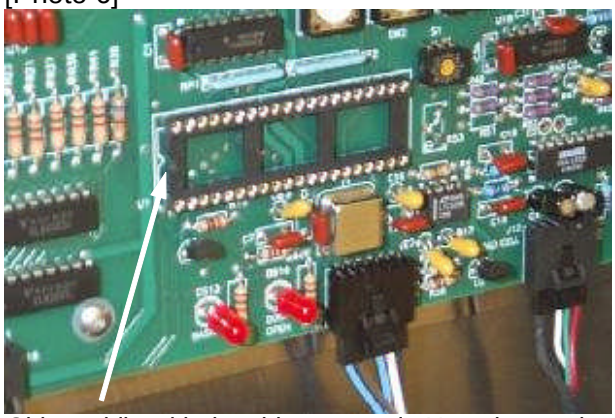
Gently pry the chip from the saddle.

[Photo 5]



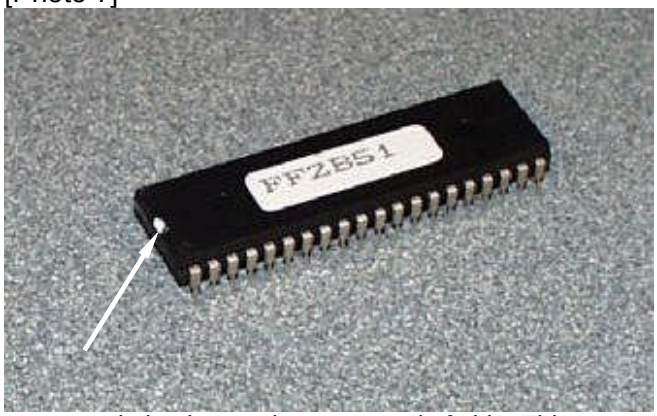
Once the chip is loose, it can be pulled straight out.

[Photo 6]



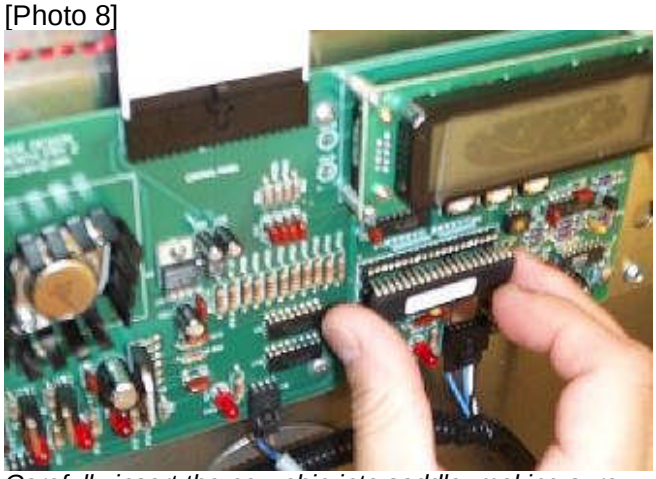
Chip saddle with the chip removed. Note the semi-circular notch on the left aligns with a similar notch on the chip.

[Photo 7]



Note semi-circular notch on one end of chip. This must align with the notch on the saddle. (The notch is not white – it is shown white for illustration purposes. Chip version number is printed on white label.)

[Photo 8]



Carefully insert the new chip into saddle, making sure that notches align and that all pins align with corresponding slots.

Copyright © 2006 Franke, Inc. All rights reserved.

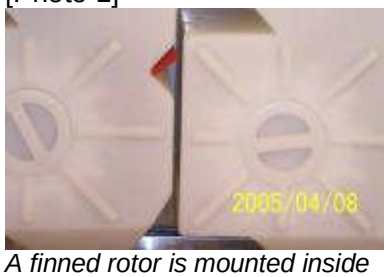
2.20 Hopper Rotor Replacement [Part No. 19000246]

1) The F3Dn Dispenser should be OFF and the freezer compartment fully defrosted before proceeding.
2) Open freezer door and remove the Hopper in question. Place it on its side, with the bottom rectangular opening for the rotor facing up.
3) Inspect rotor for damage or excessive wear. If the rotor does not turn easily by hand, it may need to be replaced.
4) The rotor front can be identified by the manual rotor handle molded into the rotation axle. The back support axle doesn't have this handle.
5) Remove the old rotor by gently prying out the plastic Hopper side closest to the manual rotation handle. When that handle clears the hole in the Hopper, pry out the rear side of hopper so that hub clears that hole. Pull up and carefully remove the rotor from the hopper.
6) Install the new Rotor [P/N 19000246] by reversing this process. Make sure the rotor end with the manual rotation handle faces the front of the Fry Hopper.

7) **Test** the replacement Rotor by:
8) Manually turn or spin the Rotor Handle. The rotor should revolve easily, with little resistance.

9) Replace the Hopper in the freezer compartment and return the unit to service.

[Photo 1]



A finned rotor is mounted inside each Hopper to gently move frozen fries to the Product Chute.

[Photo 2]

When removing the Rotor, use a large screwdriver or flat pry bar to gently lever the sides of the Hopper enough free to the rotor.

➢

Copyright © 2006 Franke, Inc. All rights reserved.